A technique used in computer simulation that serves to generate probabilistic outcomes of a model repeatedly and that, for all the simulations, provides a randomly chosen value for each variable on the basis of each distribution of the input parameters.

Note: For example, a Monte Carlo simulation can be used to represent or model many individual patients in a population with ranges of values for certain health characteristics or clinical outcomes. In some cases, the random components are added to the values of a known input variable to determine the effects of fluctuations of this variable on the values of the output variable.